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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/527,871	03/16/2005	Mark Thomas Johnson	NL 020849	2053
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EXAMINER				
WOOLCOCK, LENWORTH A				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/527,871

Applicant(s)

JOHNSON ET AL.

Examiner

LENWORTH WOOLCOCK

Art Unit

2629

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 May 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SF/ICE)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

Applicant's arguments, filed 05/13/2008, with respect to the rejection(s) of claim(s) 2-5 and 7-11 under 35 U.S.C. 103 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Tokunaga et al (EP 1079361 A1) in view of Sundahl et al (US 2003/0071821) in further view of Cok et al (EP 1158483 A2).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tokunaga et al (EP 1079361 A1) in view of Sundahl et al (US 2003/0071821).

Consider claims 1 and 12, Tokunaga discloses a method of generating a driving signal (8) for driving a plurality of pixels (2) of an organic electroluminescent display device for displaying an image (**see abstract, and fig 1**), the device comprising sensors (9; 11; 14) for monitoring operating conditions of the pixels (2) (**see abstract, thermistor**). The method comprising the steps of: obtaining data from the sensors (9; 11;14) related to the operating conditions (**see abstract, a voltage derived from a node between the resistor and the termistor**), determining a brightness change of the pixels (2) caused by the operating conditions (**see par [0041]-[0042], the luminance value varying due to the operational conditions**), and generating a driving signal (8) in dependence on the brightness change (**see par [0042], voltage is adjusted based on the luminance value**). Tokunaga does not specifically disclose one of the operating conditions including the total charge data of a pixel. Sundahl discloses monitoring the total charge data of a pixel (**see par. [0030]**).

It would have been obvious to one skilled in the art at the time the invention was made to modify the invention of Tokunaga, and monitor the total charge data of a pixel, as taught by Sundahl, thus providing an indication of the age of the device, as discussed by Sundahl (**see par. [0030]**).

Consider claims 2 and 13, Tokunaga discloses sensors (9; 11; 14) comprise at least one temperature sensor (9) for monitoring temperature data relating to the pixels (2) (**see abstract, thermistor monitors temperature relating to pixels**), and said controller adapted to generate said driving signal in dependence on the temperature data (**see abstract, drive signal is modified based on the temperature data**).

Tokunaga does not specifically disclose monitoring means (5) are present for monitoring total charge data of the pixels (2), and said controller (3) is adapted to generate said driving signal (8) in dependence on the total charge data. Sundahl discloses monitoring means (5) are present for monitoring total charge data of the pixels (2) (**see par. [0030]**), and said controller (3) is adapted to generate said driving signal (8) in dependence on the total charge data (**see par. [0030]**).

Consider claim 3 and 14, Tokunaga discloses the controller is adapted to derive an acceleration factor from the temperature data and adjusting the driving signal depending on the acceleration factor (**see par. [0070]-[0071], data table used to determine the multiple for the driving voltage based on the temperature**). Tokunaga does not specifically disclose adjusting the drive signal depending on the total charge data. Sundahl discloses adjusting the drive signal depending on the total charge data (**see par. [0030]**).

Claims are rejected under 35 U.S.C. 103(a) as being unpatentable over Tokunaga et al (EP 1079361 A1) in view of Sundahl et al (US 2003/0071821) in further view of Cok et al (EP 1158483 A2).

Consider claim 4, Tokunaga discloses temperature determination means adapted to determine a temperature in dependence on at least one temperature-dependent characteristic of the reference pixel (**see abstract**). Tokunaga does not specifically disclose a temperature sensor comprises at least one reference pixel. Cok

discloses a temperature sensor comprises at least one reference pixel (**see col. 4, lines 22-40**).

It would have been obvious to one skilled in the art at the time the invention was made to modify the invention of Tokunaga and Sundahl, and have a temperature sensor comprises at least one reference pixel, as taught by Cok, thus optimizing the display, as discussed by Cok (**see par [0001]**).

Consider claim 5, Tokunaga discloses monitoring means (13) are present, adapted for determining degradation state data of a pixel (**see par [0041]-[0042], the luminance value varying due to the operational conditions**). Tokunaga does not specifically disclose the sensors (9; 11; 14) comprise at least one reference pixel (11), monitoring means (5) are present for monitoring total charge data of the pixels (2), and further monitoring means (13) are present, adapted for determining degradation state data of said reference pixel (11), said controller (3) being adapted to generate said driving signal (8) taking account of said total charge data and said degradation state data. Sundahl discloses monitoring means (5) are present for monitoring total charge data of the pixels, and further monitoring means (13) are present, adapted for determining degradation state data of said pixel, said controller (3) being adapted to generate said driving signal (8) taking account of said total charge data and said degradation state data (**see par. [0030]**). Cok discloses disclose the sensors (9; 11; 14) comprise at least one reference pixel (11) (**see col 3 lines 35-38**),

Consider claim 7, Cok discloses the pixels (2) comprise at least two sub-pixels of a different type, and at least one reference pixel for each type is present (**see col 4 line 57 – col 5 line 3**).

Consider claim 8, Cok discloses controller (3) is adapted to provide each reference pixel (11) with a driving signal corresponding to an average brightness level of the respective types (**see col 4 lines 16-17**).

Consider claim 9, Cok discloses the controller (3) is adapted to ignore at least one of the total charge data and the data from the sensors (9; 11; 14) for at least one sub-pixel (**see col 4 lines 47-51, if voltage reaches a certain level sensor data is ignored**).

Consider claim 10, Tokunaga discloses the sensors (9; 11; 14) comprise means (14) to sense a relation between a reverse current and a reverse voltage of the pixels (2) for deriving degradation state data for the pixels (2) (**see par [0156] and par [0163]**), **the voltage and current are both measured and recorded by the microcontroller which in turn provides a means to compared previous data**), and said controller (3) is adapted to generate said driving signal (8) taking account of said degradation state data (**see par [0163]**).

Consider claim 11, Tokunaga inherently discloses means (14) are adapted to derive said degradation state data when the display device (1) is turned on (**see abstract, data cant be compared with a value from the EL element**).

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tokunaga et al (EP 1079361 A1) in view of Sundahl et al (US 2003/0071821) in view of Cok et al (EP 1158483 A2) in further view of Lee et al (US 2003/0151569 A1).

Consider claim 6, the combination of Tokunaga and Cok does not specifically teach a photodiode is present to measure the degradation state data of said pixel. Lee discloses a photodiode is present to measure the degradation state data of said pixel **(see par [0016])**.

It would have been obvious to one skilled in the art at the time the invention was made to modify the invention of the combination of Tokunaga and Cok, and have a photodiode is present to measure the degradation state data of said pixel, as taught by Lee, thus providing the ability to correct for changes due to aging in image display devices, as discussed by Lee **(see par [0010])**.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LENWORTH WOOLCOCK whose telephone number is (571)270-5152. The examiner can normally be reached on M-F 8:30am - 6pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amare Mengistu can be reached on 571-272-7674. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Lenworth Woolcock/
Examiner, Art Unit 2629
/Amare Mengistu/
Supervisory Patent Examiner, Art Unit 2629